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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,540	08/26/2003	Milind R. Naphade	YOR920030316US1	2284

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EXAMINER

LIEW, ALEX KOK SOON

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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02/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/647,540

Applicant(s)

NAPHADE ET AL.

Examiner

ALEX LIEW

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2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-13 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-13 and 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

1. The amendment filed on 10/28/08 is entered and made of record.
2. Response to applicant's arguments

On pages 11 and 12, the applicant stated:

"That is, the alleged combinations of reference do not teach or suggest, "an image processing device that processes the image and recognizes a correspondence between said plurality of descriptors and said plurality of image regions, said image regions defining a second content granularity; and a descriptor propagation device that propagates said plurality of descriptors to the second content granularity that is finer than the first content granularity, and wherein the descriptor propagation device propagates the first descriptor without prior data regarding the first descriptor at the second granularity and without manual user intervention", as recited in exemplary claim 1 and as somewhat similarly recited in exemplary claims 4, 8, 10, 12, 16-18, and 20-23."

The examiner agrees; however, in an updated search, the examiner found Hennessey (US pat no 6,014,461) which reads on the added limitations.

Hennessey discloses an image processing device that process the image and recognizes a correspondence between said plurality of descriptors and said plurality of image regions (figure 30, an object is taken from an image; a plurality of descriptors is assigned to this single object, descriptors such as size of object, average color, edge sharpness, etc).

On page 12, applicant stated: "The system, without any manual user intervention and without any prior knowledge of the second, finer, granularity, propagates the descriptors to the appropriate regions of the image, which are at the second granularity (e.g., see Figure 5). The system processes/analyzes the image and the descriptors, determines a correspondence between the descriptors and the appropriate region of the image, and then propagates the descriptor to that region (e.g., the second granularity)." Hennessey discloses an automatic descriptor assignment system, without having a user operating the system (figure 2, 207 and 208, the attributes of an object is extracted automatically).

Examiner will make rejections according with Hennessey reference.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-13 and 16 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the method for classifying descriptors including generating step, accepting step and propagating step would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. There is no computer processor or any computing device to perform any of the listed steps.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7-9, 12, 13, 16, 17, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek (WO 00/28467) in view of Hennessey (US pat no 6,014,461).

With regards to claim 1, Paek discloses an image acceptance device that receives an image having a plurality of descriptors and a plurality of image regions (figure 8, element 206, receives image data containing plurality of image regions, figure 1a, and

receives annotation from 290); and a propagation device that propagates the first descriptor to a second content granularity that is finer than the first content granularity, and wherein the descriptor propagation device propagates the first descriptor without prior data regarding the first descriptor (see figures 1b, 'photo,' which is a descriptor, is the first content granularity and 'person A' and 'person B,' which are also descriptors, are the second content granularities, the arrows pointing from '03' to '01' and '02' are read as propagation, in figures 1a, the descriptor are labeled without using a hierarchy, which reads on 'without prior data', hierarchy is not use until figure 1b). Paek does not disclose a descriptor acceptance device that accepts a first descriptor associated with a first content granularity and an image processing device that process the image and recognizes a correspondence between said *plurality* of descriptors and said plurality of image regions However, an object in an image can be labeled with more than one descriptor. For example, figure 1a of Paek, "Person A" can also be labeled as "Man." Hennessey discloses a descriptor acceptance device that accepts a first descriptor associated with a first content granularity (figure 20, produces a plurality of descriptors, figure 1, the identification part is read as the descriptor acceptance device, the computer generates the descriptors shown in figure 20); an image processing device that process the image and recognizes a correspondence between said plurality of descriptors and said plurality of image regions (figure 30, an object is taken from an image; a plurality of descriptors is assigned to this single object, descriptors such as size of object, average color, edge sharpness, etc, a single object comprises of a plurality image regions, for example the object in figure 9, 52, the wing portion is read as

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one region and tail region as another image region) and an automatic descriptor assignment system, without having a user operating the system (figure 2, 207 and 208, the attributes of an object is extracted automatically). One skilled in the art would include plurality of descriptors for an object in an image because to provide more accurate description of the image content improving identification of the object(s) in the image.

With regards to claim 3, Hennessey discloses a repository that stores the first descriptor associated with the first content granularity (figure 28, "Store Vector" the vector contains features of an object, figures 26a and 26b, figure 1, 25 is the repository).

With regards to claim 8, see the rationale for claim 1.

With regards to claim 4, see rationale for claim 1. Hennessey discloses mapping/propagation function (see figure 29, the similarity measures between vectors D and K using dot product). One skilled in the art would include a mapping function because to find the pattern in the database best matches the input pattern, which results in accurate matching.

With regards to claims 2, 9, 20 and 23, see the rationale for claim 4.

With regards to claim 7, see the rationale for claim 3.

With regards to claims 16 and 17, see the rationale for claim 4.

With regards to claim 12 see the rationale for claim 1.

With regards to claim 13 see the rationale for claim 3.

3. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek '467 in view of Hennessey '461 and Sakoe (US pat no 4,479,236).

With regards to claims 6 and 15, Paek and Hennessey disclose all the limitations of claim 4, but do not disclose a second mapping function. Sakoe discloses a second mapping function (see figure 5, 18). One skilled in the art would include a second mapping function because to further determine the total difference between two patterns (see abstract of Sakoe).

4. Claims 10, 11, 18, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek '467 in view of Sakoe '236.

With regards to claims 10, 11, 18, 21 and 22, see the rationale for claims 1 and 4.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paek '467 in view of Sakoe '236 as applied 10 further in view of Hennessey '461.

With regards to claim 19, see the rationale for claim 3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX LIEW whose telephone number is (571)272-8623 or cell (917)763-1192. The examiner can be reached anytime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bhavesh M Mehta/

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Supervisory Patent Examiner, Art Unit 2624

Alex Liew

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1/31/09